

Amendments to the Claims:

The following is a complete list of claims indicating the changes incorporated by the present amendment and replacing all prior versions of the claims. Any claims canceled herein and all deletions made in claims that are not canceled herein are done so without prejudice to being re-instituted at a later date in this or a related application.

Listing of Claims:

1.-68. (Canceled)

69. (Previously presented) A method of screening for a carrier-mediated transport protein and/or a substrate thereto, comprising:

(a) providing a library comprising different complexes, each complex comprising a compound and a separate reporter, the compound varying between different complexes;

(b) providing one or more cells, each cell expressing a carrier-mediated transport protein;

(c) contacting the one or more cells with a plurality of complexes from the library simultaneously; and

(d) selectively detecting a signal from a reporter internalized within one or more of the cells as compared to signal from reporter outside the cell to indicate that a complex whose reporter generated the signal comprises a compound that is a substrate for a carrier-mediated transport protein;

provided that if the reporter comprises a fluorophore, the complex comprises a compound, a fluorophore and a quencher, and the fluorophore is linked to the quencher by a linker susceptible to cleavage within the cell, whereby the quencher quenches fluorescence from the fluorophore outside the cell and is cleaved from the fluorophore within the cell after the complex is internalized within the cell, whereby the reporter preferentially generates the signal once internalized within the cell.

70. (Previously presented) The method of claim 69, wherein the reporter comprises a fluorophore and a quencher moiety, and if a compound complexed with the reporter is a substrate for the carrier-mediated transport protein, the complex is transported by the carrier-mediated transport protein into a cell expressing the carrier-mediated transport protein, whereby the quencher moiety becomes separated from the fluorophore such that a fluorescent signal is emitted by the fluorophore within the cell, and the detection step comprises detecting the fluorescent signal.

71. (Canceled)

72. (Previously presented) The method of claim 69, wherein the reporter comprises a substrate for an enzyme, and if a compound complexed with the reporter is a substrate for the carrier-mediated transport protein, the complex is transported by the carrier-mediated transport protein into a cell expressing the carrier-mediated transport protein and the enzyme, whereby the enzyme metabolizes the substrate to form a detectable product, and the detecting step comprises detecting the detectable product.

73.-75 (Canceled)

76. (Previously presented) A method of screening for a carrier-mediated transport protein and/or a ligand thereto, comprising:

- (a) providing a library comprising different complexes, each complex comprising a compound and a separate reporter, the compound varying between different complexes;
- (b) providing one or more cells, each cell expressing a carrier-mediated transport protein, and located in a single reaction vessel;
- (c) contacting the one or more cells with a plurality of complexes from the library simultaneously, the compound and reporter varying between different complexes and different reporters disposed to generate different signals, whereby at least one complex is bound to or internalized within the one or more cells; and

(d) detecting the signal from the reporter of the at least one complex, the signal providing an indication of the identity of the compound borne by the at least one complex.

77. (Previously presented) A method of screening for a carrier-mediated transport protein and/or a substrate thereto, comprising:

(a) providing one or more cells, each cell expressing a carrier-mediated transport protein;

(b) contacting the one or more cells with one or more complexes, each complex comprising a compound and a reporter;

(c) detecting a signal from a reporter internalized within the one or more cells to identify at least one complex that is internalized within the one or more cells, the compound of the internalized complex being a substrate potentially disposed to transport a pharmaceutical agent into a cell via the activity of a carrier-mediated transport protein;

(d) preparing a modified complex, the modified complex comprising the compound identified in step (c) and a pharmaceutical agent;

(e) repeating steps (a) and (b) with the modified complex; and

(f) determining whether the modified complex is internalized within one of the one or more cells by detecting the modified complex within the one or more cells, such detection providing an indication that the compound of the modified complex can serve as a substrate for transporting a pharmaceutical agent into cells expressing carrier-mediated transport proteins.

78-139. (Canceled)

140. (**Currently amended**) A method of screening for a carrier-mediated transport protein and/or a substrate thereto, comprising:

(a) providing one or more cells, each cell expressing a ~~carrier-type~~ **carrier-mediated** transport protein;

(b) contacting the one or more cells with one or more complexes, each complex comprising a compound and a reporter; and

(c) selectively detecting a signal from a reporter internalized within one or more of the cells as compared to signal from reporter outside the cell to indicate that a complex whose reporter generated the signal comprises a compound that is a substrate for a carrier-mediated transport protein.

wherein the contacting step results in at least one complex being internalized in a cell, the reporter is a fluorophore that fluoresces upon binding to a nucleic acid within the cell, which fluorescence is detected in the detecting step.

141. (**Currently amended**) A method of screening for a carrier-mediated transport protein and/or a substrate thereto, comprising:

(a) providing one or more cells, each cell expressing a carrier-mediated transport protein;

(b) contacting the one or more cells with one or more complexes, each complex comprising a compound and a reporter; and

(c) selectively detecting a signal from a reporter internalized within one or more of the cells as compared to signal from reporter outside the cell to indicate that a complex whose reporter generated the signal comprises a compound that is a substrate for a carrier-mediated transport protein.

wherein the contacting step results in at least one complex being internalized in a cell, the reporter promotes aggregation of subunits of a multimeric enzyme expressed within the ~~population of cells~~ cell, and the enzyme catalyzes production of a product that generates a detectable signal, and detecting comprises detecting the detectable signal.

142. (Previously presented) A method of screening for a carrier-mediated transport protein and/or a substrate thereto, comprising:

(a) providing one or more cells, each cell expressing a carrier-mediated transport protein;

(b) contacting the one or more cells with one or more complexes, each complex comprising a compound and a reporter; and

(c) selectively detecting a signal from a reporter internalized within one or more of the cells as compared to signal from reporter outside the cell to indicate that a complex whose reporter generated the signal comprises a compound that is a substrate for a carrier-mediated transport protein.

wherein the contacting step results in at least one complex being internalized in a cell, the reporter promotes transcription of a promoter within a cell resulting in expression of an enzyme that catalyzes production of a product that generates a detectable signal, and detecting comprises detecting the detectable signal.